

#### **Actively Cooled PFC Mock-ups**

#### ALPS/PFC Spring 2004

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### LANL Plasma-Sprayed FW Be armored mock-ups

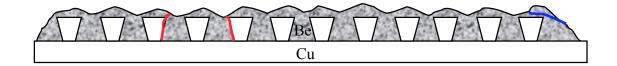
• Kendall Hollis 5 mm and 10 mm P.S. Be On Cu castellations







### We seek robust Be/Cu joints.



- Thermal fatigue cracking copper castellations promote stress cracks perpendicular to the substrate.
- Mechanical interlocking to castellated copper.
- Diminishes the prominence of P.S. splat boundaries.

Testing in EBTS near end of FY'05.

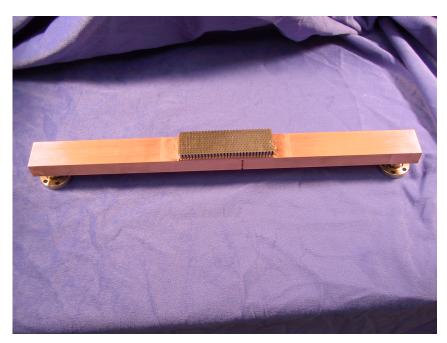


# 15Q is 1 of 8 W-rod mock-ups developed by Plasma Processes, Inc. under a phase-II SBIR.

• Scott O'Dell

Application to ITER or NSO divertor.

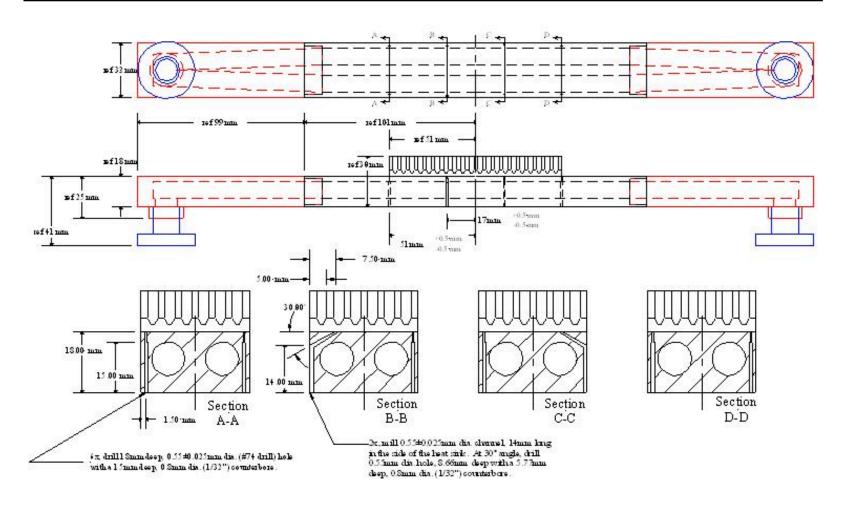
15Q shown before mounting is instrumented with 8 TCs.







### 15Q heatsink has dual swirl tubes, Y=1.5.





# PPI W-rod armored mock-ups are currently being tested at the PMTF.

- ITER related ELMS experiments (R. Nygren)
- W-rod erosion experiments (D. Youchison)
- •3.2-mm-dia, 5-mm-high rods
- •1.5% lanthanated tungsten
- •P.S. CuCrNb backing with Ni
- •e-beam welded to CuCrZr



